

# FCC Test Report

Report No.: AGC03285210701FE02A

FCC ID	:	2AMWO-FSC-BT691		
APPLICATION PURPOSE	:	Class II Equipment		
PRODUCT DESIGNATION	:	Bluetooth Module		
BRAND NAME	:	Feasycom		
MODEL NAME	:	FSC-BT691		
APPLICANT	:	Shenzhen Feasycom Co., Ltd		
DATE OF ISSUE	:	Jul. 06, 2022		
STANDARD(S)	:	FCC Part 15.247		
<b>REPORT VERSION</b>	:	V1.0		
Attestation of Global A Guine (Shenzhen) Co., Ltd				





#### **REPORT REVISE RECORD**

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 06, 2022	Valid	Initial Release

#### Note:

The original test report Ref. No. AGC03285210701FE02 dated Jul. 29, 2021 was modified on Jul. 06, 2022 to include the following changes:

-Change the Antenna Designation;

-Change the Antenna Gain;

-Change the EUT Photos;

-Change the Test Photos;

-Change the Applicant, Manufacturer and Factory information;

-The Radiated Emission, Line Conduction Emission tests and Band Edge Emission have been updated.



## TABLE OF CONTENTS

1. VERIFICATION OF COMPLIANCE	4
2. GENERAL INFORMATION	5
2.1. PRODUCT DESCRIPTION	5
2.2. TABLE OF CARRIER FREQUENCYS	5
2.3. RELATED SUBMITTAL(S)/GRANT(S)	6
2.4. TEST METHODOLOGY	
2.5. SPECIAL ACCESSORIES	6
2.6. EQUIPMENT MODIFICATIONS	
2.7. ANTENNA REQUIREMENT	6
3. MEASUREMENT UNCERTAINTY	7
4. DESCRIPTION OF TEST MODES	
5. SYSTEM TEST CONFIGURATION	9
5.1. CONFIGURATION OF TESTED SYSTEM	9
5.2. EQUIPMENT USED IN TESTED SYSTEM	9
5.3. SUMMARY OF TEST RESULTS	
6. TEST FACILITY	
7. RADIATED EMISSION	11
7.1. MEASUREMENT PROCEDURE	11
7.2. TEST SETUP	
7.3. LIMITS AND MEASUREMENT RESULT	
7.4. TEST RESULT	
8. LINE CONDUCTED EMISSION TEST	
8.1. LIMITS OF LINE CONDUCTED EMISSION TEST	
8.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	
8.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	
8.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	
8.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST	
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	27
APPENDIX B: PHOTOGRAPHS OF EUT	



## **1. VERIFICATION OF COMPLIANCE**

Applicant	Shenzhen Feasycom Co., Ltd	
Address	Rm 508, Building A, Fenghuang Zhigu, No.50, Tiezai Road, Xixiang, Baoan District, Shenzhen, 518102, China	
Manufacturer	Shenzhen Feasycom Co., Ltd	
Address	Rm 508, Building A, Fenghuang Zhigu, No.50, Tiezai Road, Xixiang, Baoan District, Shenzhen, 518102, China	
Factory	Shenzhen Feasycom Co., Ltd	
Address	Rm 508, Building A, Fenghuang Zhigu, No.50, Tiezai Road, Xixiang, Baoan District, Shenzhen, 518102, China	
Product Designation	Bluetooth Module	
Brand Name	Feasycom	
Test Model	FSC-BT691	
Date of test	Jun. 22, 2022 to Jul. 01, 2022	
Deviation	No any deviation from the test method	
Condition of Test Sample	Normal	
Test Result	Pass	
Report Template	AGCRT-US-BLE/RF	

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Codche Prepared By Cool Cheng Jul. 06, 2022 (Project Engineer) Reviewed By Calvin Liu Jul. 06, 2022 (Reviewer)

Approved By

Max Zhang (Authorized Officer)

Jul. 06, 2022

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



# 2. GENERAL INFORMATION

## 2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Bluetooth Module". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402GHz to 2.480GHz
RF Output Power	1.081dBm (Max)
Bluetooth Version	V5.1
Modulation	BR⊡GFSK, EDR⊡π /4-DQPSK, ⊡8DPSK BLE⊠GFSK 1Mbps □GFSK 2Mbps
Number of channels	40 Channels
Antenna Designation	FPC Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	1.7dBi
Hardware Version	V1.1
Software Version	V1.1
Power Supply	DC 5V by PC

## 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
2400~2483.5MHz	0	2402 MHz
	1	2404 MHz
	:	:
	38	2478 MHz
	39	2480 MHz



## 2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for FCC ID: 2AMWO-FSC-BT691 filing to comply with the FCC Part 15.247 requirements.

#### 2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

#### **2.5. SPECIAL ACCESSORIES**

Refer to section 5.2.

#### 2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

#### 2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.



# **3. MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement y  $\pm$ U, where expended uncertainty U is based on a standard

uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Item	Measurement Uncertainty
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 2.9 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 3.8 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.9 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_c = \pm 2 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$



## 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX

Note: 1. Only the result of the worst case was recorded in the report, if no other cases.

- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
  - 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

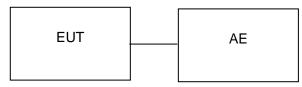
#### Software Setting 880 Layout RF M 0 • Power Mont OTP Pro-SPI Flash/EEPROM Termir Load Create Load RF Master Booter & Board Set E - Log X 42 Firmware Download Browse Do A LETAR 0 RF Maxtex 022-06-20 11-11 2 402 GHz (Ch 37) and payload Pieuw 11-20 star 022-06-20 11-11-20 of-70-11-11-20 00-20 11-11-20 . 2.402 GHz (Ch.37) ÷ . Stop 0 11 1 0 1 0 . ∧ ゆ do 英 11:16



# **5. SYSTEM TEST CONFIGURATION**

## **5.1. CONFIGURATION OF TESTED SYSTEM**

Radiated Emission Configure:



Conducted Emission Configure:

EUT	AE

#### **5.2. EQUIPMENT USED IN TESTED SYSTEM**

Item	Equipment	Model No.	ID or Specification	Remark
1	Bluetooth Module	FSC-BT691	2AMWO-FSC-BT691	EUT
2	Control Box	USB-TTL	N/A	AE
3	PC Adapter	HW-200325CP0	2.2m unshielded	AE
4	PC	D15	N/A	AE

#### **5.3. SUMMARY OF TEST RESULTS**

FCC RULES	DESCRIPTION OF TEST	RESULT
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	Compliant



# 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA

## TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESPI	101206	Mar. 28, 2022	Mar. 27, 2023
Artificial power network	R&S	ESH2-Z5	100086	Jun. 08, 2022	Jun. 07, 2023
Test Software	FARA	EZ-EMC(Ver. AGC-CON03A1)	N/A	N/A	N/A

## TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESCI	10096	Mar. 28, 2022	Mar. 27, 2023
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Nov. 17, 2021	Nov. 16, 2022
Signal Analyzer	Aglient	N9020A	MY52090123	Sep. 06, 2021	Sep. 05, 2022
2.4GHz Filter	EM Electronics	N/A	N/A	Mar. 18, 2022	Mar. 19, 2024
Attenuator	ZHINAN	E-002	N/A	Sep. 03, 2020	Sep. 02, 2022
Horn Antenna	SCHWARZBEC	BBHA9170	768	Oct. 31, 2021	Oct. 30, 2023
Active Loop Antenna (9K-30Mhz)	ZHINAN	ZN30900C	18051	Mar. 12, 2022	Mar. 11, 2024
Double-Ridged Waveguide Horn	ETS	3117	00034609	Apr. 23, 2021	Apr. 22, 2023
Preamplifier Assembly	ETS	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
Wideband Antenna	SCHWARZBECK	VULB9168	VULB9168-49 4	Jan. 08, 2021	Jan. 07, 2023
Test Software	FARA	EZ-EMC(Ver.RA-0 3A)	N/A	N/A	N/A



# 7. RADIATED EMISSION

## 7.1. MEASUREMENT PROCEDURE

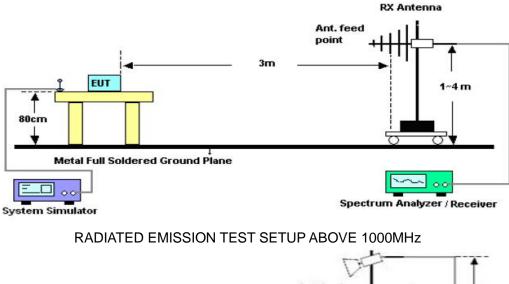
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

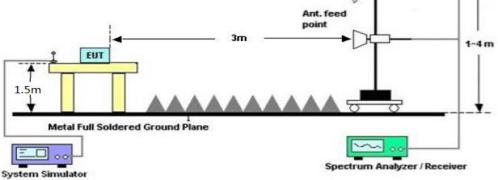


## 7.2. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz

#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz







## 7.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

### 7.4. TEST RESULT

#### Radiated emission below 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.



EUT	Bluetooth Module	Model Name	FSC-BT691		
Temperature	25°C	Relative Humidity	55%		
Pressure	985hPa	Test Voltage	Normal Voltage		
Test Mode	Mode 1	Antenna	Horizontal		

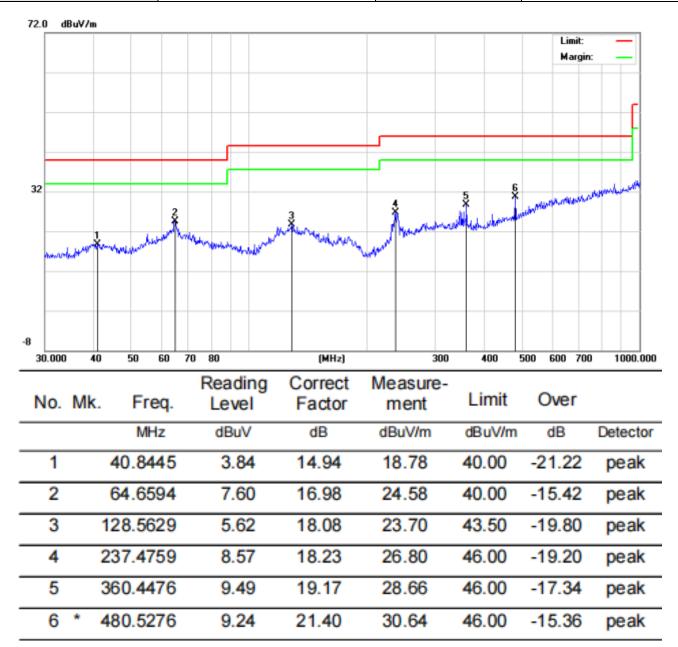
### Radiated emission from 30MHz to 1000MHz

							Limit: Margin:	
2				W.M. Warner	and the second design	S.	finstle bedelement	
30.000 No.	40 Mk.	50 60 7	® Reading	(MHz) Correct Factor	300 Measure- ment	400 s	500 600 700 Over	1000.0
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detecto
1		42.4508	5.26	14.76	20.02	40.00	-19.98	peak
2	(	65.1145	8.03	16.80	24.83	40.00	-15.17	peak
3	1:	33.1511	6.19	17.75	23.94	43.50	-19.56	peak
4	2	35.8164	7.42	16.15	23.57	46.00	-22.43	peak
5	3	60.4476	11.00	20.58	31.58	46.00	-14.42	peak
Ŭ								

## **RESULT: PASS**



EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



#### **RESULT: PASS**

Note: 1. Factor=Antenna Factor + Cable loss, Over=Measurement-Limit.

2. All test modes had been tested. The mode 1 is the worst case and recorded in the report.



#### Radiated emission above 1GHz

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

(dBµV)						
	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type	
48.57	0.08	48.65	74	-25.35	peak	
36.21	0.08	36.29	54	-17.71	AVG	
41.37	2.21	43.58	74	-30.42	peak	
30.86	2.21	33.07	54	-20.93	AVG	
	36.21 41.37	36.21         0.08           41.37         2.21	36.21         0.08         36.29           41.37         2.21         43.58	36.21         0.08         36.29         54           41.37         2.21         43.58         74	36.21         0.08         36.29         54         -17.71           41.37         2.21         43.58         74         -30.42	

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Meter Reading	Factor	Emission Level	Limits	Margin		
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type	
47.68	0.08	47.76	74	-26.24	peak	
35.17	0.08	35.25	54	-18.75	AVG	
42.67	2.21	44.88	74	-29.12	peak	
30.05	2.21	32.26	54	-21.74	AVG	
	(dBµV) 47.68 35.17 42.67	(dBµV)         (dB)           47.68         0.08           35.17         0.08           42.67         2.21	(dBµV)         (dB)         (dBµV/m)           47.68         0.08         47.76           35.17         0.08         35.25           42.67         2.21         44.88	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)           47.68         0.08         47.76         74           35.17         0.08         35.25         54           42.67         2.21         44.88         74	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)         (dB)           47.68         0.08         47.76         74         -26.24           35.17         0.08         35.25         54         -18.75           42.67         2.21         44.88         74         -29.12	



EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Meter Reading	Factor	Emission Level	Limits	Margin	
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
47.23	0.14	47.37	74	-26.63	peak
37.45	0.14	37.59	54	-16.41	AVG
41.63	2.36	43.99	74	-30.01	peak
32.57	2.36	34.93	54	-19.07	AVG
	(dBµV) 47.23 37.45 41.63	(dBµV)         (dB)           47.23         0.14           37.45         0.14           41.63         2.36	(dBµV)         (dB)         (dBµV/m)           47.23         0.14         47.37           37.45         0.14         37.59           41.63         2.36         43.99	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)           47.23         0.14         47.37         74           37.45         0.14         37.59         54           41.63         2.36         43.99         74	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)         (dBµ           47.23         0.14         47.37         74         -26.63           37.45         0.14         37.59         54         -16.41           41.63         2.36         43.99         74         -30.01

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type Peak AVG Peak AVG AVG
4880.000	47.89	0.14	48.03	74	-25.97	peak
4880.000	35.72	0.14	35.86	54	-18.14	AVG
7320.000	41.07	2.36	43.43	74	-30.57	peak
7320.000	29.76	2.36	32.12	54	-21.88	AVG
Remark:						
actor = Anter	nna Factor + Cable	e Loss – Pre-	amplifier.			



EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	48.97	0.22	49.19	74	-24.81	peak
4960.000	37.52	0.22	37.74	54	-16.26	AVG
7440.000	42.54	2.64	45.18	74	-28.82	peak
7440.000	32.58	2.64	35.22	54	-18.78	AVG
Remark:						
actor = Anter	na Factor + Cab	le Loss – Pre-a	amplifier.			

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	48.24	0.22	48.46	74	-25.54	peak
4960.000	36.34	0.22	36.56	54	-17.44	AVG
7440.000	43.24	2.64	45.88	74	-28.12	peak
7440.000	31.27	2.64	33.91	54	-20.09	AVG
emark:						

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

## **RESULT: PASS**

#### Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin=Emission Level-Limit.

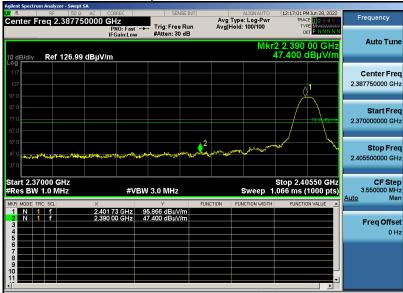
The "Factor" value can be calculated automatically by software of measurement system.



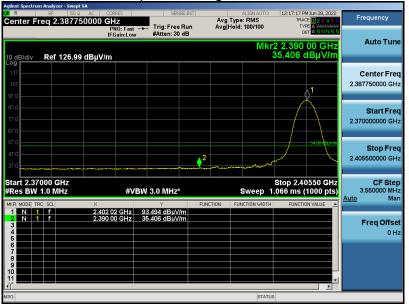
EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

## Test result for band edge emission at restricted bands

Test Graph for Peak Measurement



Test Graph for Average Measurement



## **RESULT: PASS**

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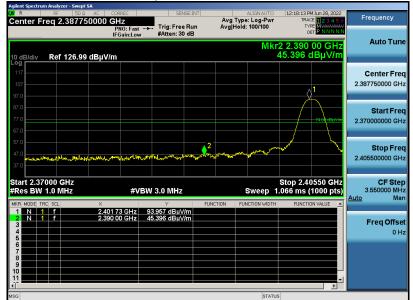
Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



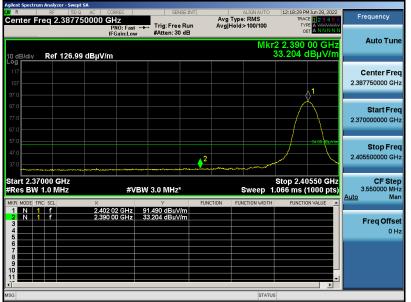
#### Report No.: AGC03285210701FE02A Page 20 of 27

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



**RESULT: PASS** 

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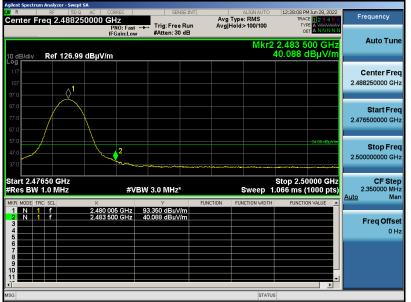
#### Report No.: AGC03285210701FE02A Page 21 of 27

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Test Graph for Peak Measurement



Test Graph for Average Measurement



**RESULT: PASS** 

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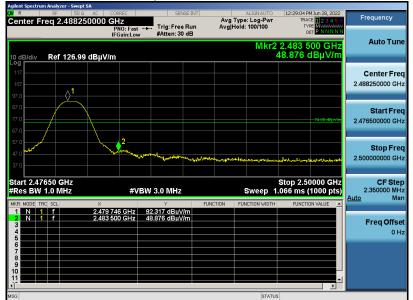
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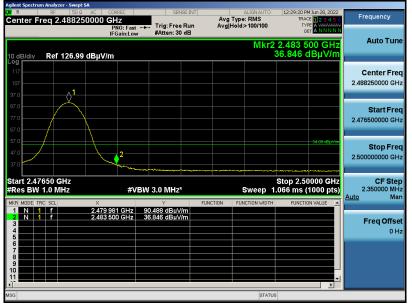
#### Report No.: AGC03285210701FE02A Page 22 of 27

EUT	Bluetooth Module	Model Name	FSC-BT691
Temperature	25°C	Relative Humidity	55%
Pressure	985hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Test Graph for Peak Measurement



Test Graph for Average Measurement



# **RESULT: PASS**

Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

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# 8. LINE CONDUCTED EMISSION TEST

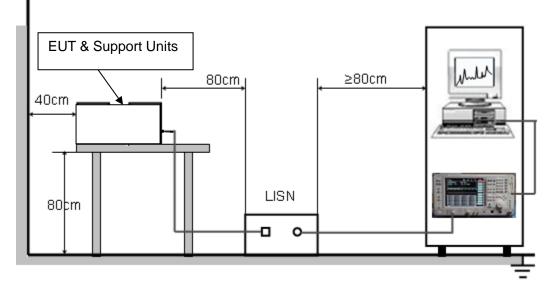
## 8.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage			
Frequency	Q.P.(dBuV)	Average(dBuV)		
150kHz~500kHz	66-56	56-46		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

## 8.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





# 8.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

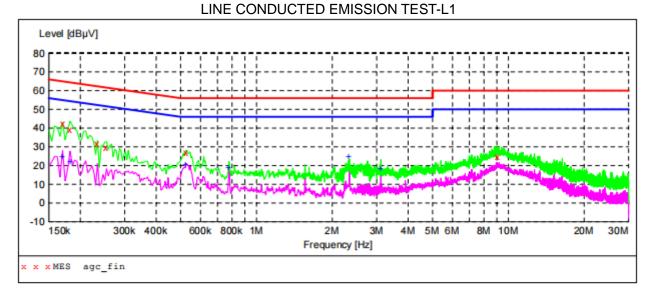
- The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipment received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

# 8.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.





# 8.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

#### MEASUREMENT RESULT: "agc fin"

2022/6/28 21: Frequency MHz	:37 Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.170000 0.182000 0.234000 0.254000 0.526000 9.034000	42.30 39.40 31.80 29.30 26.80 24.70	6.8 6.7 6.2 5.4 6.8	65 64 62 56 60	22.7 25.0 30.5 32.3 29.2 35.3	QP QP QP QP QP QP	L1 L1 L1 L1 L1 L1	FLO FLO FLO FLO FLO

#### MEASUREMENT RESULT: "agc fin2"

2	022/6/28 21:	37						
	Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
	MHz	dBµV	dB	dBµV	dB			
	0.170000	24.90	6.8	55	30.1	AV	L1	FLO
	0.182000	21.90	6.7	54	32.5	AV	L1	FLO
	0.526000	20.70	5.4	46	25.3	AV	L1	FLO
	0.778000	18.80	5.4	46	27.2	AV	L1	FLO
	2.338000	24.70	6.5	46	21.3	AV	L1	FLO
	3.118000	18.50	6.5	46	27.5	AV	L1	FLO
-								

#### **RESULT: PASS**

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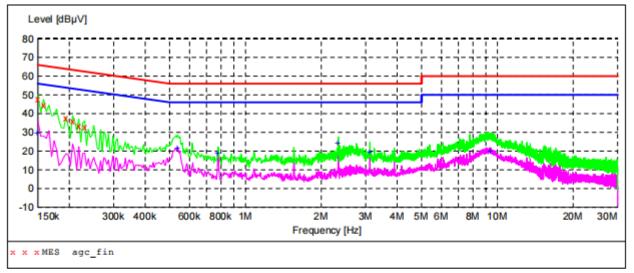
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#### LINE CONDUCTED EMISSION TEST-N



#### MEASUREMENT RESULT: "agc fin"

2022/6/28 21	:34						
Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBµV	dB	dBµV	dB			
0.150000	47.60	6.9	66	18.4	QP	N	FLO
0.158000	44.70	6.8	66	20.9	QP	N	FLO
0.194000	37.50	6.6	64	26.4	QP	N	FLO
0.206000	35.90	6.5	63	27.5	QP	N	FLO
0.218000	33.40	6.4	63	29.5	QP	N	FLO
0.230000	32.80	6.4	62	29.6	QP	N	FLO

#### MEASUREMENT RESULT: "agc fin2"

2022/6/28	21:34							
Frequency		Level	Transd	Limit	Margin	Detector	Line	PE
MHz		dBµV	dB	dBµV	dB			
		-		-				
0.1500	00	29.30	6.9	56	26.7	AV	N	FLO
0.5380	00	21.40	5.4	46	24.6	AV	N	FLO
0.7780	00	18.80	5.4	46	27.2	AV	N	FLO
2.3380	00	24.40	6.5	46	21.6	AV	N	FLO
3.1180	00	19.40	6.5	46	26.6	AV	N	FLO
9.3420	00	19.90	6.8	50	30.1	AV	N	FLO

#### **RESULT: PASS**

Note: All the test modes had been tested, the Mode 1 was the worst case. Only the data of the worst case would be record in this test report.

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# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC03285210701AP01A

# **APPENDIX B: PHOTOGRAPHS OF EUT**

Refer to the Report No.: AGC03285210701AP02A

----END OF REPORT----



# Conditions of Issuance of Test Reports

 All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
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3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.